

OUTBACK POWER'S INFORMAL COMMENTS ON THE STAFF
PROPOSAL ON REACTIVE POWER PRIORITY SETTING OF SMART
INVERTERS DATED 7/27/2017

August 11, 2017

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OutBack Power Technologies (OutBack Power) respectfully submits informal comments regarding the Staff Proposal on Reactive Power Priority Setting of Smart Inverters (Staff Proposal). OutBack Power welcomes this change, with certain suggested revisions as noted below, as an important step in allowing advanced inverters to provide additional benefits to both the utilities and State of California.

OutBack Power is a privately held company headquartered in Arlington, WA, and is a leading designer and manufacturer of advanced power electronics for renewable energy, backup power, marine and mobile applications incorporating solar, wind, micro-hydro and battery based energy storage systems. The company is also a member of The Alpha Group – a global alliance of independent companies that share a common philosophy: create world-class powering solutions for communication, commercial, industrial and renewable energy projects.

1. Reactive Power Improves Voltage Regulation and Supports Higher Penetrations of Distributed Energy Resources

OutBack Power supports the transition to reactive power priority as being in the best interests of grid stability and grid supportive operation. From a purely conceptual level, it seems reasonable that if a specific function is beneficial to the grid and distributed energy resources (DER) are to be increasingly counted on for providing that benefit, then any action that would curtail that benefit just when the DER is producing at peak and the function is needed most seems counterintuitive and potentially disruptive. More importantly, our real-world research indicates that when an inverter is providing reactive power which is successfully regulating voltage on the grid but begins to curtail reactive power in favor of real power, the voltage begins to quickly rise and can result in destabilizing voltage trips. In practice, active power priority turns a smart inverter dumb. Revising the language would ensure DER continues to provide grid supporting benefits, especially when it's most valuable and needed.

2. The Proposed Tariff Language Is Beneficial But Clarity Can Be Improved

OutBack Power supports the modification of the Rule 21 tariff language, but believes the clarity of the language may be improved if the first sentence of the second paragraph is revised as follows:

When activated, the Smart Inverter shall provide reactive power ~~irrespective of the effect on~~ as a priority over active power.

3. The Proposed Date Is Reasonable And Achievable

The product development and certification timeline is rather lengthy and compressing it presents risk, and this must be considered whenever there are to be new requirements. It typically takes a minimum of 24 months to scope, develop, test, validate, certify and ramp to manufacturing for new products, and meeting even a 12 month implementation window is often only achievable by either active participation in the development of the new standards, which provides some visibility into the coming changes, or through a disruptive “all-hands-on-deck” crash development. This functional reality should be kept in mind as we work together to implement future changes such as the adoption of a revised IEEE 1547 and its far-reaching implications for DER. However, in the case of reactive power priority OutBack Power believes the proposed date of January 1st is reasonable and achievable. UL1741-SA can be used today to certify product for both reactive power priority as well as real power priority. Hawaii requires reactive power priority effective September 8th and the draft IEEE P1547 has standardized on reactive power priority, so many inverters will likely be available which have been certified for that capability, although they may not have it enabled in their California profiles today. Typically, whenever there’s a change to settings the industry needs enough time to develop, test and verify new profiles as well as to distribute them through the channel. It is recognized that grid protection parameters may need to change as we learn the full capabilities of smart inverters, but where those changes are within the existing range of adjustment or are to the default states, the implementation period can be more flexible

and may be compressed based on need. As an alternative, the Staff may consider formally adopting reactive power priority as a preferred but permissive operation immediately aligned with the deployment of smart inverter functions effective September 8th 2017, with a mandatory default requirement at some later date such as January 1.

Conclusion

OutBack Power thanks the Staff for the opportunity to submit these informal comments.

Dated: August 11, 2017

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'P. Undercuffler', written over a horizontal line.

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